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The Driving Cognitive Training Centre (DCTC): Testing a Community-based Brain Training Model for Older Drivers

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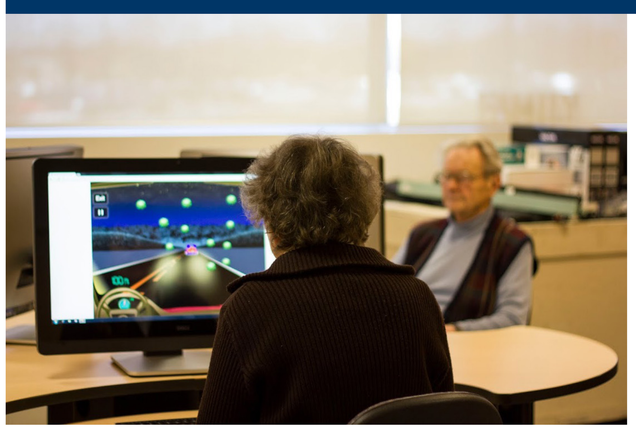

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INTRODUCTION

The Sheridan Centre for Elder Research conducts innovative 'Lab to Life™' research that enhances the quality of life of older adults. DynamicBrain Inc. is the Canadian distributor and partner of Posit Science Corp., which develops scientifically-tested[1], computer-based, personalized brain training products.

Building on previous work, we sought to implement and evaluate a community-based model for driving-related cognitive training for older drivers. Age-related changes in visual and cognitive processes can have an adverse impact on driving skills and previous research[2] has shown improvements in driving abilities following 10 hours of targeted brain training using Posit Science's BrainHQ Driving Cognitive Training computer program. Using this program, we tested our community-implementation model, the Driving Cognitive Training Centre (DCTC).

RESEARCH QUESTIONS

1. How effective is the community-based model (the Driving Cognitive Training Centre, DCTC) as a means of engaging older adults in structured driving-related cognitive training?
2. Are there differences in outcomes for those who participate from home instead of at the DCTC?

THE DCTC MODEL AND METHODOLOGY

The Driving Cognitive Training Centre (DCTC) is a publically available space with a computerized product available which is designed to train the skills related to driving (i.e. reaction time, Useful Field of View®). The DCTC community location was at the Sheridan Centre for Elder Research in Oakville.

Over a 2-week period, 10 participants (mean age 75; 7 female) completed 10 hours (1 hour/day; 5 days/week) of driving-specific cognitive training. Participants chose to complete their training at the DCTC or at their own home and qualitative feedback about the model and their training experience was collected.

RESULTS - MODEL EFFECTIVENESS

Training Feedback (n=10)	• Motivation to maintain or improve driving and/or cognitive functioning was high • Easy to incorporate training into their daily schedule • Training program was challenging, interesting, and educational • Improvements (self-reported) in cognitive processes such as: peripheral vision, ability to focus, reaction speed, mental energy, attention and positive mood

Participants training at DCTC (n=3)	Participants training at home (n=7)
• Accessibility benefit – for individuals that do not have computer and internet access • Motivation benefit – some felt that the commitment they made to attend the DCTC served as extra motivation to complete training (n=2)	• Convenience benefit – more flexibility in training location and time • Comfort and privacy benefit - more flexibility in the way they approached the program and reviewed their results

CONCLUSIONS

1. The DCTC was an accessible cognitive training opportunity for those individuals who did not have a computer or appropriate training conditions otherwise.
2. Community-based cognitive training opportunities as compared to at-home training require an external commitment on the part of the user, which can help improve motivation and adherence.
3. Given the added benefits, community-training opportunities should be made available in addition to the training at-home approach. Community organizations can enrich their current programming and meet some social and cognitive needs of older adults using this model.

Acknowledgments

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